

P A T E N T

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re:	Matthias Gygi	Confirmation No.: 5925
Serial No.:	10/561,748	Examiner: Ren Luo Yan
Filing Date:	April 20, 2006	Group Art Unit: 2854
Docket No.:	1322.1121101	Customer No.: 28075
For:	PRINTING MACHINE	

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Commissioner for Patents
P.O. Box 1450
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APPEAL BRIEF UNDER 37 C.F.R. § 41.37

CERTIFICATE FOR ELECTRONIC TRANSMISSION:

The undersigned hereby certifies that this paper or papers, as described herein, are being electronically transmitted to the U.S. Patent and Trademark Office on this 3rd day of August 2010.

By Kathleen L. Boekley
Kathleen L. Boekley

Dear Sir:

Pursuant to 37 C.F.R. § 41.37, Appellants hereby submit this Appeal Brief in furtherance of the Notice of Appeal filed on April 13, 2010 and of the Notice of Panel Decision from Pre-Appeal Review dated June 3, 2010. Applicants authorize the fee prescribed by 37 C.F.R. § 41.20(b)(2) in the amount of \$510.00 to be charged to Deposit Account No. 50-0413. Permission is hereby granted to charge or credit Deposit Account No. 50-0413 for any errors in fee calculation.

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I. REAL PARTY IN INTEREST

The real party in interest is the assignee of record, KBA-Giori S.A., a corporation having a business address of Avenue du Grey 55, P.O. Box 347, 1000 Lausanne 22, Switzerland. An assignment from the inventor, Mathias Gygi, conveying all right, title and interest in the invention to KBA-Giori S.A. has been recorded at Reel 017499, Frame 0814.

II. RELATED APPEALS AND INTERFERENCES

There are no other known appeals or interferences that will directly affect, or be directly affected by, or have a bearing on the Board's decision in this appeal.

III. STATUS OF CLAIMS

Claims 1-7, 11-16, 21-24 and 26 are pending in the application.

Claims 1-7, 11-16 and 21-24 and 26 stand finally rejected under 35 U.S.C. §103(a) as being unpatentable over Applicant's Admitted Prior Art (AAPA) in view of Raksha, U.S. Patent No. 7,047,883, and Corver, U.S. Patent No. 5,247,317.

Claims 8-10, 17-20 and 25 were cancelled

Claims 1-7, 11-16, 21-24 and 26 are under appeal

IV. STATUS OF AMENDMENTS

No amendments subsequent to the last Final Office Action, that of January 15, 2010, have been introduced.

V. SUMMARY OF CLAIMED SUBJECT MATTER¹

The invention relates generally to a sheet-fed or web-fed printing machine, to a printing method and to a security element for paper securities. See page 1, lines 3-5.

Turning now to independent claim 1, which relates to a printing machine for printing a substrate in the form of a sheet or continuous web (pg. 7, lines 5-6 and 36-38), said substrate being intended to receive at least one impression, comprising at least one transfer system (pg. 7, ll. 10-13; Fig. 1, reference numeral 2) for conveying the substrate onto an impression cylinder (pg. 7, l. 36; Fig. 2, reference numeral 6), at least one screen (pg. 8, l. 2; Fig. 2, reference numerals 7,8) of cylindrical or flat shape equipped with a doctor blade (pg. 7, ll. 15-16), the screen collaborating with the impression cylinder and intended to print the substrate by screen-printing with an optically variable ink containing pigments that can be orientated by a magnetic field (pg. 9, ll. 28-31) and an unloading system (pg. 7, ll. 17-19; Fig. 2, reference numerals 9, 10) for carrying the substrate away after the printing operation, wherein said impression cylinder comprises at least one magnetic element (pg. 9, ll. 6-10; Fig. 3A, reference numerals 21, 22) on its printing surface, said magnetic element being placed at a location corresponding to said impression on said substrate performed by said screen so as to orientate the pigments contained in the optically variable ink and create a varying optical effect in said impression, and wherein said at least one magnetic element is covered by a sheet of non-magnetic material (pg. 9, ll. 10-12).

Independent claim 3 recites a printing machine for printing a substrate in the form of a sheet or continuous web (pg. 7, lines 5-6 and 36-38), said substrate being intended to receive at least one impression, comprising at least one transfer system (pg. 7, ll. 10-13; Fig. 1, reference

¹ The references to the specification and drawings provided herein are exemplary, and are not deemed to be limiting.

numeral 2) for conveying the substrate onto an impression cylinder (pg. 7, l. 36; Fig. 2, reference numeral 6), at least one screen (pg. 8, l. 2; Fig. 2, reference numerals 7,8) of cylindrical or flat shape equipped with a doctor blade (pg. 7, ll. 15-16), the screen collaborating with the impression cylinder and intended to print the substrate by screen-printing with an optically variable ink containing pigments that can be orientated by a magnetic field (pg. 9, ll. 28-31) and an unloading system (pg. 7, ll. 17-19; Fig. 2, reference numerals 9, 10) for carrying the substrate away after the printing operation, wherein the unloading system comprises a cylinder having at least one magnetic element (pg. 9, ll. 6-10; Fig. 3A, reference numerals 21, 22) on its surface, said magnetic element being placed at a location corresponding to said impression on said substrate performed by said screen so as to orientate the pigments contained in the optically variable ink and create a varying optical effect in said impression, and wherein said at least one magnetic element is covered by a sheet of non-magnetic material (pg. 9, ll. 10-12).

Independent claim 11 recites a method of screen-printing a substrate (pg. 9, l. 29; Fig. 4, reference numeral 27) in the form of a sheet or web (pg. 7, lines 5-6 and 36-38), in which an impression is formed using an optically variable ink containing pigments that can be orientated by a magnetic field (pg. 9, ll. 34-37), said impression being formed by passing said substrate in contact with an impression cylinder (pg. 7, l. 36; Fig. 2, reference numeral 6) with which there collaborates at least one screen (pg. 8, l. 2; Fig. 2, reference numerals 7,8) of cylindrical or flat shape equipped with a doctor blade (pg. 7, ll. 15-16) for screen-printing said optically variable ink, wherein said impression is subjected to a magnetic field before it dries so as to orientate said pigments and create a varying optical effect in said screen-printed impression (pg. 12, ll. 15-19), and wherein said magnetic field needed for orienting said pigments is produced by a cylinder (pg. 9, l. 31; Fig. 4, reference numeral 6) bearing at least one magnetic element (pg. 9, l. 32; Fig.

4, reference numeral 28) on its surface, which at least one magnetic element is covered by a sheet of non-magnetic material (pg. 9, ll. 10-12).

VI. GROUND OF REJECTION TO BE REVIEWED ON APPEAL

Whether claims 1-7, 11-16, 21-24 and 26 are patentable under 35 U.S.C. §103(a) over Applicant's Admitted Prior Art (AAPA) in view of Raksha, U.S. Patent No. 7,047,883, and Corver, U.S. Patent No. 5,247,317.

VII. ARGUMENT

A. Claims 1-7, 11-16, 21-24 and 26 are patentable under 35 U.S.C. §103(a) over Applicant's Admitted Prior Art (AAPA) in view of Raksha, U.S. Patent No. 7,047,883, and Corver, U.S. Patent No. 5,247,317.

All words in a claim must be considered in judging the patentability of that claim against the prior art and/or there must be some suggestion or motivation to modify the references.

"All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). Further, "there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *KSR*, 550 U.S. at ___, 82 USPQ2d at 1396 quoting *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006). The proposed combination of references either will not produce the claimed invention or, in the alternative, motivation is lacking for making the proposed combination because the articulated reasoning is inconsistent with the claim language.

Claim 1, for example, recites "said magnetic element being placed at a location corresponding to said impression on said substrate performed by said screen so as to orientate the

pigments contained in the optically variable ink *and create a varying optical effect in said impression*, and wherein said at least one magnetic element is covered by a sheet of non-magnetic material.” (Emphasis added.) Independent claims 3 and 11 contain similar limitations.

Specifically, it is asserted in the Final Office Action of January 15, 2010 that “it would also have been obvious...to provide the magnetic elements on the cylinder surface of AAPA, as modified by Raksha et al. with a sheet of non-magnetic material such as aluminum or stainless steel as taught by Carver et al so as to predictably obtain a homogenous magnetic field at the surface of the cylinder.” This cannot be true. If a homogenous magnetic field at the surface of the cylinder is produced, a varying optical effect in the impression cannot be produced.

Corver et al. relate to an electrostatic printing device for reproducing information, and more specifically to an electromagnetic printing device (see “Field of the Invention”, column 1, lines 7 to 9). Figure 2 of Corver et al., which is reproduced below, more particularly illustrates a magnified segmented cross-section of the development zone of a printing device according to Corver et al.:

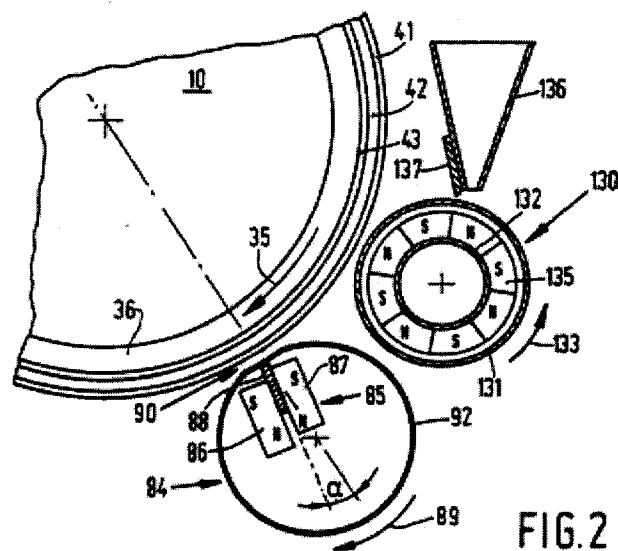


Figure 2 of Corver et al.

Reference numeral 10 designates an image-forming element in the form of a drum 36 rotatable in the direction of arrow 35 and provided with an insulating layer 43 on which are disposed a large number of adjacent and mutually insulated electrodes 42 which extend endlessly in the direction of movement of the drum 36, the electrodes being covered by a dielectric layer 41 (see column 3, lines 23-30).

A magnetic roller 84 is provided next to the rotatable drum 36, which magnetic roller 84 comprises a grounded electrically conductive sleeve 92 rotatable in the direction of arrow 89 about a magnetic system comprising a magnetic knife 85 consisting of a ferromagnetic blade 88 held between two magnets 86 and 87 (see column 3, lines 30-34). The magnets 86, 87 which are in contact with the blade 88 generate a narrow magnetic field in an image-development zone 90 (see column 3, lines 38-41).

A uniform layer of conductive magnetic toner powder is applied to the dielectric layer 41 of the rotatable drum 36 by means of a toner feed device inclusive of a toner reservoir 136 and a magnetic roller 130 which comprises a sleeve 131 of diamagnetic material, such as aluminum, brass or stainless steel. This sleeve 131 is mounted for rotation about a shaft 132 and can be driven into rotation in the direction of arrow 133 by drive means (not shown). A number of magnets 135 are mounted on the shaft 132 of the magnetic roller 130, the shaft being fixed in the frame of the printing device. A homogeneous magnetic field is thus obtained at the surface of the diamagnetic sleeve 131 under the influence of the magnets 135 (see column 3, lines 43-57).

A function of the magnetic roller 130 is thus to apply and transfer a uniform layer of magnetically attractable toner powder onto the circumference of the image-forming element for subsequent development by the downstream-located magnetic roller 84 at the image-development zone 90. A further function of the magnetic roller 130 is that toner powder

remaining on the sleeve 92 of the magnetic roller 84 after passing the image-development zone is attracted by the magnetic field of the magnetic roller 130 back to the rotating sleeve 131 (see column 3, line 68 to column 4, line 32).

The function, structure and purpose of the magnetic roller 130 of Corver et al. is thus fundamentally different from what is specifically claimed in the instant application. In particular, a key difference resides in the fact that the magnetic roller 130 is specifically and only used with toner, i.e., printing material that is fundamentally different from printing ink.

In addition, while the magnetic roller 130 of Corver et al. is specifically designed to transfer and apply a uniform layer of printing material (namely toner), the cylinder carrying at least one magnetic element which is a constituent of the claimed invention is not at all designed to apply or transfer any such printing material (namely optically variable printing ink in the context of the claimed invention). The cylinder of the claimed invention is rather used to orient pigments that are contained in the optically variable ink that has been applied onto a substrate by means of the claimed at least one screen. Claim 1, for example, recites “said magnetic element being placed at a location corresponding to said impression on said substrate performed by said screen so as to orient the pigments contained in the optically variable ink and create a varying optical effect in said impression.”

It is argued in the Final Office Action of January 15, 2010 that “it would also have been obvious...to provide the magnetic elements on the cylinder surface of AAPA, as modified by Raksha et al. with a sheet of non-magnetic material such as aluminum or stainless steel as taught by Carver et al so as to predictably obtain a homogenous magnetic field at the surface of the cylinder.” If providing the magnetic elements with a sheet of non-magnetic material provides a homogeneous field at the surface of the cylinder, then the machine so produced cannot orient the

pigments in the optically variable ink to create a varying optical effect. This is because the varying optical effect in the printed ink is created only by a non-homogeneous magnetic field. If the field is homogeneous then so too is the printed ink, and the claim language of “said magnetic element being placed at a location corresponding to said impression on said substrate performed by said screen so as to orientate the pigments contained in the optically variable ink and create a varying optical effect in said impression” is not met. One cannot create a varying optical effect using a homogeneous magnetic field.

On the other hand, if the addition of a sheet of non-magnetic material does not provide a homogeneous field at the surface of the cylinder as stated by the Examiner, then there is no motivation to make the combination. As the Examiner stated on page 7 of the Office Action, “the Corver et al patent was relied on for the teaching of providing a magnetic roller 130 with a sheet of non-magnetic material 131 such as aluminum or stainless steel to cover the magnets 135 disposed on the surface of the roller for the purpose of obtaining a homogeneous magnetic field at the surface of the cylinder.” This is the sole stated motivation for including Corver in the combination, and without this motivation, Appellant sees no reason why one of skill in the art would modify AAPA in view of Raksha in view of Corver.

Because either the proposed modification does not produce the claimed invention, or there is no motivation to make the proposed modification, Appellant submits that claim 1 is allowable over the cited prior art. As independent claims 3 and 11 contain similar limitations (claim 3 recites “so as to orientate the pigments contained in the optically variable ink and create a varying optical effect in said impression” and claim 11 recites “as to orientate said pigments and create a varying optical effect in said screen-printed impression”), Appellant submits that these claims are likewise allowable. As dependent claims 2, 4-7, 12-16, 21-24 and 26 depend

form one of claims 1, 3 and 11 and contain additional elements, Appellant submits that these claims are also patentable over the cited prior art for at least these reasons.

B. CONCLUSION.

For the reasons stated above, the claims are patentable over the cited art, and the Examiner's rejections of claims 1-7, 11-16, 21-24 and 26 under 35 U.S.C. §103(a) should be overruled.

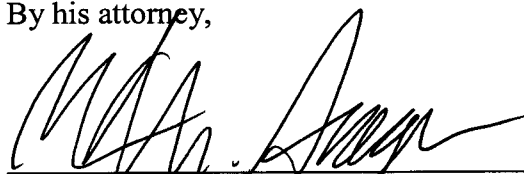
Respectfully submitted,

Matthias Gygi

By his attorney,

Date:

Aug 03 2010

A handwritten signature in black ink, appearing to read "Glenn M. Seager", written over a horizontal line.

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VIII. CLAIMS APPENDIX

1. A printing machine for printing a substrate in the form of a sheet or continuous web, said substrate being intended to receive at least one impression, comprising at least one transfer system for conveying the substrate onto an impression cylinder, at least one screen of cylindrical or flat shape equipped with a doctor blade, the screen collaborating with the impression cylinder and intended to print the substrate by screen-printing with an optically variable ink containing pigments that can be orientated by a magnetic field and an unloading system for carrying the substrate away after the printing operation, wherein said impression cylinder comprises at least one magnetic element on its printing surface, said magnetic element being placed at a location corresponding to said impression on said substrate performed by said screen so as to orientate the pigments contained in the optically variable ink and create a varying optical effect in said impression, and wherein said at least one magnetic element is covered by a sheet of non-magnetic material.

2. The printing machine as claimed in claim 1, in which the substrate receives a plurality of impressions arranged in the form of a matrix and wherein the impression cylinder comprises a plurality of magnetic elements arranged in a corresponding matrix form.

3. A printing machine for printing a substrate in the form of a sheet or continuous web, said substrate being intended to receive at least one impression, comprising at least one transfer system for conveying the substrate onto an impression cylinder, at least one screen of cylindrical or flat shape equipped with a doctor blade, the screen collaborating with the impression cylinder and intended to print the substrate by screen-printing with an optically variable ink containing

pigments that can be orientated by a magnetic field and an unloading system for carrying the substrate away after the printing operation, wherein the unloading system comprises a cylinder having at least one magnetic element on its surface, said magnetic element being placed at a location corresponding to said impression on said substrate performed by said screen so as to orientate the pigments contained in the optically variable ink and create a varying optical effect in said impression, and wherein said at least one magnetic element is covered by a sheet of non-magnetic material.

4. The printing machine as claimed in claim 3, in which said cylinder is an unloading cylinder.

5. The printing machine as claimed in claim 3, in which said cylinder is an intermediate cylinder.

6. The printing machine as claimed in claim 1, in which said magnetic element or elements create a magnetic field in a predetermined direction.

7. The printing machine as claimed in claim 6, in which said magnetic element or elements are orientated in a direction parallel and/or perpendicular to the direction of travel of the substrate.

11. A method of screen-printing a substrate in the form of a sheet or web, in which an impression is formed using an optically variable ink containing pigments that can be orientated

by a magnetic field, said impression being formed by passing said substrate in contact with an impression cylinder with which there collaborates at least one screen of cylindrical or flat shape equipped with a doctor blade for screen-printing said optically variable ink, wherein said impression is subjected to a magnetic field before it dries so as to orientate said pigments and create a varying optical effect in said screen-printed impression, and wherein said magnetic field needed for orienting said pigments is produced by a cylinder bearing at least one magnetic element on its surface, which at least one magnetic element is covered by a sheet of non-magnetic material.

12. The printing method as claimed in claim 11, in which the magnetic field orientates the pigments in a predetermined direction.

13. The printing method as claimed in claim 12, in which the pigments are orientated parallel and/or perpendicular to the direction of travel of the substrate.

14. The printing method as claimed in claim 12, in which a first impression is formed on the substrate using the ink with varying optical effect, said impression is subjected to a first magnetic field orientating the pigments in a first direction, said first impression is dried, a second impression is formed on the first impression using the ink with varying optical effect, said second impression is subjected to a second magnetic field orientating the pigments in a second direction, and said second impression is dried.

15. The method as claimed in claim 14, in which the first direction and the second direction are different.

16. The method as claimed in claim 11, in which said impression comprises a plurality of individual impressions arranged in matrix form.

21. The method as claimed in claim 16, wherein a corresponding magnetic field is produced for each of said individual impressions.

22. The printing machine as claimed in claim 3, in which said magnetic element or elements create a magnetic field in a predetermined direction.

23. The printing machine as claimed in claim 22, in which said magnetic element or elements are orientated in a direction parallel and/or perpendicular to the direction of travel of the substrate.

24. The printing machine as claimed in claim 1, wherein said sheet of non-magnetic material is made of aluminum or of stainless steel.

26. The printing machine as claimed in claim 3, wherein said sheet of non-magnetic material is made of aluminum or of stainless steel.

IX. EVIDENCE APPENDIX

No additional evidence has been presented.

X. RELATED PROCEEDINGS APPENDIX

There are no related appeals or interferences.